CLAIMS

What is claimed is:

1. A detection device for detecting irregular intravascular pressure, said device comprising analyzing means for automatically analyzing blood pressure upstream of a suspected location of irregular blood flow and comparing the blood pressure to a standard, whereby variations in the blood pressure during multiple tests is indicative of irregular blood flow.
2. The device according to claim 1, wherein said analyzing means is computer driven.
3. The device according to claim 1, wherein said analyzing means is an equation.
4. The device according to claim 3, wherein said equation is an algorithm that estimates pressure inside a blood access site, thereby detecting irregular blood flow.
5. The device according to claim 4, wherein said algorithm calculates the ratio between venous blood pressure and mean arterial pressure.
6. The device according to claim 1 for use in detecting potential access failure.
7. The device according to claim 1 for use in detecting risk of stroke.
8. The device according to claim 1 for use in detecting risk of heart attack.
9. The device according to claim 1 for use in detecting risk of stenosis.
10. A method of detecting irregular blood flow by calculating blood pressure upstream of a suspected location of irregular blood flow and comparing the blood pressure to a standard, whereby elevation of the blood pressure over a series of calculations indicates a restricted blood flow.
11. The method of claim 10, wherein said calculating step includes automatically calculating blood pressure.
12. The method of claim 10, wherein said comparing step includes automatically comparing the blood pressure to a standard.
13. The method of claim 12, wherein said automatically comparing step further includes automatically comparing the blood pressure to a standard using an algorithm.
14. The method of claim 10, wherein said calculating step includes automatically calculating blood pressure during a procedure.

15. A system for providing warning of potential health problems due to irregular intravascular pressure, said system comprising: a detection device according to claim 1; and communication means operably connected to said device for communicating a warning when said device indicates an irregularity of blood pressure of at least two uses of said device.

16. The system according to claim 15, wherein said communication means is selected from the group consisting essentially of electronic communications, facsimile, telephone, cable modem, and T1 connection.

17. An algorithm for detecting irregular intravascular pressure.

18. The algorithm according to claim 17, wherein said algorithm is used in conjunction with an integrated circuit.

19. The algorithm according to claim 17, wherein said algorithm is used to monitor pressure variations in any type of system used to transport blood into an extracorporeal circuit.

20. The algorithm according to claim 17, wherein said algorithm is utilized as an alarm system in extracorporeal blood treatment and infusion technology circuits.

21. The algorithm according to claim 17, wherein said algorithm is used to develop an alarm system for any fluid transporting device or fluid transporting system, whereby said algorithm determines an alarm level based on the rate of fluid flow through a device that is part of the alarm system and physical properties of fluid transported through the device. The alarm level can be set at any value that insures safe operation of the device.

22. An alarm system for use with the algorithm set for in claim 17 for use in any fluid transporting device or fluid transporting system, said alarm system comprising an alarm, wherein said algorithm determines an alarm level based on the rate of fluid flow through a device that is part of the alarm system and physical properties of fluid transported through the device and an alarm is set off based on said algorithm.

23. The alarm system according to claim 22, wherein said alarm level can be set at any value that insures safe operation of the device.